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EXAMINER

PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/646,738

Applicant(s)

NAGAI ET AL.

Examiner

Jeff Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/24/08, 8/11/08, 8/30/07, and 6/19/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 7-14, 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 15 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/182,828.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent *Application No. 10/182,828*, filed on *2 August 2002*.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “ T_G ” in *Figure 8* has been used to designate both *the main displaying period for the green light emitting element* and *the main displaying period for the blue light emitting element*.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a) because **Figure 12** neglects to show how a main current could be supplied to a blue light emitting element (**L_B**) as described in the specification. There is a disconnection between the illustrated blue main current switch (**62_B**) and the blue light emitting element (**L_B**).

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

Specification

5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Election/Restrictions

6. ***Applicant's election without traverse of Group I (claims 1-6, 15, and 18-20)*** in the reply filed on *24 November 2008* is acknowledged and appreciated.

7. ***Claim 13 is withdrawn*** from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on *24 November 2008*.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-6, 15, and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***a plurality of light emitting elements***" (line 2); "***a red light emitting element***" (line 9); "***a green light emitting***" (line 9); and "***the green light emitting element***" (line 11). For example:

It would be unclear to one having ordinary skill in the art whether the "***red light emitting element***" (line 9); "***green light emitting***" (line 9); and/or "***green light emitting element***" (line 11) are intended to be common to, or distinct from, the earlier claimed "***plurality of light emitting elements***" (line 2).

An omitted structural cooperative relationship results from the claimed subject matter: "***a plurality of color tones***" (lines 2-3); "***a blue color tone***" (line 4); "***a red color tone***" (line 11); and "***a green color tone***" (lines 11-12). For example:

It would be unclear to one having ordinary skill in the art whether the "**blue color tone**" (line 4); "**red color tone**" (line 11); and/or "**green color tone**" (lines 11-12) are intended to be common to, or distinct from, the earlier claimed "**plurality of color tones**" (lines 2-3).

12. Claim 1 recites the limitation "**the green light emitting element**" (line 11). There is insufficient antecedent basis for this limitation in the claim. For example:

No "**green light emitting element**" is anywhere earlier recited in the claim.

13. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "**a blue color tone**" (claim 1, line 4); "**a red color tone**" (claim 1, line 11); "**a green color tone**" (claim 1, lines 11-12); and "**three color tones**" (claim 2, line 2). For example:

It would be unclear to one having ordinary skill in the art whether the earlier claimed "**blue color tone**" (claim 1, line 4); "**red color tone**" (claim 1, line 11); and/or "**green color tone**" (claim 1, lines 11-12) are intended to be common to, or distinct from, the later claimed "**three color tones**" (claim 2, line 2).

An omitted structural cooperative relationship results from the claimed subject matter: "**a red light emitting element**" (claim 1, line 9); "**a green light emitting**" (claim 1, line 9); "**the**

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green light emitting element" (claim 1, line 11); and ***"light emitting elements"*** (claim 2, line 2).

For example:

It would be unclear to one having ordinary skill in the art whether the earlier claimed ***"a red light emitting element"*** (claim 1, line 9); ***"a green light emitting"*** (claim 1, line 9); and/or ***"the green light emitting element"*** (claim 1, line 11) are intended to be common to, or distinct from, the later claimed ***"light emitting elements"*** (claim 2, line 2).

14. Claim 3 recites the limitation ***"the three color tones"*** (line 2). There is insufficient antecedent basis for this limitation in the claim. For example:

It would be unclear to one having ordinary skill in the art whether this limitation is intended to refer to the earlier claimed ***"blue color tone"*** (claim 1, line 4), ***"red color tone"*** (claim 1, line 11), and ***"green color tone"*** (claim 1, lines 11-12); or rather intended to refer to the earlier claimed ***"three color tones"*** (claim 2, line 2).

15. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: ***"a red light emitting element"*** (claim 1, line 9); ***"a green light emitting"*** (claim 1, line 9); ***"the green light emitting element"*** (claim 1, line 11); and ***"light emitting elements"*** (claim 3, line 2).

For example:

It would be unclear to one having ordinary skill in the art whether the earlier claimed "***a red light emitting element***" (claim 1, line 9); "***a green light emitting***" (claim 1, line 9); and/or "***the green light emitting element***" (claim 1, line 11) are intended to be common to, or distinct from, the later claimed "***light emitting elements***" (claim 3, line 2).

16. Claim 15 recites the limitation "***the light emitting elements***" (line 2). There is insufficient antecedent basis for this limitation in the claim. For example:

It would be unclear to one having ordinary skill in the art whether this limitation is intended to refer to the earlier claimed "***a red light emitting element***" (claim 1, line 9); "***a green light emitting***" (claim 1, line 9); and/or "***the green light emitting element***" (claim 1, line 11); or rather intended to refer to the earlier claimed "***a plurality of light emitting elements***" (claim 1, line 2).

17. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***an amount of light emission***" (claim 18, line 11) and "***the amount of light emission***" (claim 18, line 8). For example:

It would be unclear to one having ordinary skill in the art whether these limitations are intended to be identical to, or distinct from, one another.

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18. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***an amount of light emission***" (claim 19, line 11); "***the amount of light emission***" (claim 19, line 8); and "***emit an amount of light***" (claim 2, line 6). For example:

It would be unclear to one having ordinary skill in the art whether these limitations are intended to be identical to, or distinct from, one another.

19. Claim 20 recites the limitation "***the blue color tone***" (line 4). There is insufficient antecedent basis for this limitation in the claim. For example:

It would be unclear to one having ordinary skill in the art whether this limitation is intended to refer to the earlier claimed "***blue color tone***" (claim 1, line 4); or rather intended to refer to the earlier claimed "***blue***" (claim 3, line 3).

20. Claim 20 recites the limitation "***the red and green color tones***" (line 7). There is insufficient antecedent basis for this limitation in the claim. For example:

It would be unclear to one having ordinary skill in the art whether this limitation is intended to refer respectively to the earlier claimed "***red color tone***" (claim 1, line 11) and "***green color tone***" (claim 1, lines 11-12); or rather intended to refer respectively to the earlier claimed "***red***" (claim 3, line 3) and "***green***" (claim 3, line 3).

21. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*an amount of light emission*" (claim 20, line 11); "*the amount of light emission*" (claim 20, line 8); and "*emit an amount of light*" (claim 2, line 6). For example:

It would be unclear to one having ordinary skill in the art whether these limitations are intended to be identical to, or distinct from, one another.

22. The remaining claims are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon rejected base claims.

23. The claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

As a courtesy to the Applicant, the examiner has attempted to also make rejections over prior art -- based on the examiner's best guess interpretations of the invention that the Applicant is intending to claim.

However, the indefinite nature of the claimed subject matter naturally hinders the Office's ability to search and examine the application.

Any instantly distinguishing features and subject matter that the Applicant considers to be absent from the cited prior art is more than likely a result of the indefinite nature of the claims.

The Applicant is respectfully requested to correct the indefinite nature of the claims, which should going forward result in a more precise search and examination.

Claim Rejections - 35 USC § 102

24. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

25. Claims 1-6, 15, and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by ***Maeshima et al (US 6,486,923 B1)***.

Regarding claim 1, ***Maeshima*** discloses an image display apparatus [*e.g., Fig. 1*] comprising:

a display portion [*e.g., Fig. 1: 21*] including a plurality of light emitting elements [*e.g., Fig. 1: 2*] corresponding to a plurality of color tones [*e.g., Fig. 1: RGB*] disposed in each pixel, the light emitting elements including

at least a blue light emitting element [*e.g., Fig. 1: 2B*] corresponding to a blue color tone;

a main current driver [*e.g., Fig. 2: 501, 502, 503*] operable to supply a main current [*e.g., Fig. 2: Rd, Gd, Bd*] to at least the blue light emitting element in a pixel; and

a correcting current driver [*e.g., Fig. 2: 504, 505*] operable to add a correcting current [*e.g., Figs. 1-2: Rdm, Gdm, Bdm*] for chromaticity correcting to at least one of a red light emitting element [*e.g., Fig. 1: 2R*] and a green light emitting [*e.g., Fig. 1: G*] in the pixel,

the red light emitting element corresponding to a red color tone and

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the green light emitting element [*e.g.*, *Fig. 1: 2G*] corresponding to a green color tone, wherein

the main current and the correcting current are controlled by a pulse driving period (*see the entire document, including Column 2, Line 55 - Column 4, Line 32*).

Regarding claim 2, ***Maeshima*** discloses each pixel is composed of three color tones [*e.g.*, *red, green, blue*] of light emitting elements [*e.g.*, *Fig. 1: 2*], and wherein

the red light emitting element and the green light emitting element emit an amount of light to correct a dispersion of chromaticity of the blue light emitting element corresponding to the blue color tone (*see the entire document, including Column 7, Lines 1-24*).

Regarding claim 3, ***Maeshima*** discloses the three color tones of light emitting elements, of which each pixel is composed, are red, blue and green (*see the entire document, including Column 2, Lines 55-67*).

Regarding claim 4, ***Maeshima*** discloses the main current and the correcting current are controlled by time-sharing (*see the entire document, including Column 3, Line 50 - Column 4, Line 32*).

Regarding claim 5, this claim is rejected by the reasoning applied in rejecting claim 4.

Regarding claim 6, this claim is rejected by the reasoning applied in rejecting claim 4.

Regarding claim 15, **Maeshima** discloses the light emitting elements are light emitting diodes (*see the entire document, including Column 1, Lines 5-10*).

Regarding claim 18, **Maeshima** discloses a driving period corresponding to one image frame [*e.g., Fig. 4: Field*] is divided into three divided periods [*e.g., Fig. 4: R clock periods*], wherein

a pulse driving current [*e.g., Fig. 3: Dg*] for the blue color tone corresponding to the blue light emitting element as the main current is supplied in one of the three divided periods as a main displaying period [*e.g., Fig. 4: clock period 1*], wherein

pulse driving currents [*e.g., Fig. 3: Dg*] for the red and green color tones corresponding to the red and green light emitting elements to control the amount of light emission for correcting chromaticity to be added as the correcting currents are supplied in the other two of the three divided periods as color correcting periods [*e.g., Fig. 4: clock periods 2, 3*], and wherein

an amount of light emission by the main current and the correcting currents is adjusted by controlling widths of reference clock pulses (*see the entire document, including Column 2, Line 55 - Column 4, Line 32*).

Regarding claim 19, this claim is rejected by the reasoning applied in rejecting claim 18.

Regarding claim 20, this claim is rejected by the reasoning applied in rejecting claim 18.

Response to Arguments

26. Applicant's arguments filed 19 June 2006 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 1-6, 15, and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The documents listed on the attached '*Notice of References Cited*' are cited to further evidence the state of the art pertaining to image display apparatuses.

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/
Primary Examiner, Art Unit 2629
27 February 2009